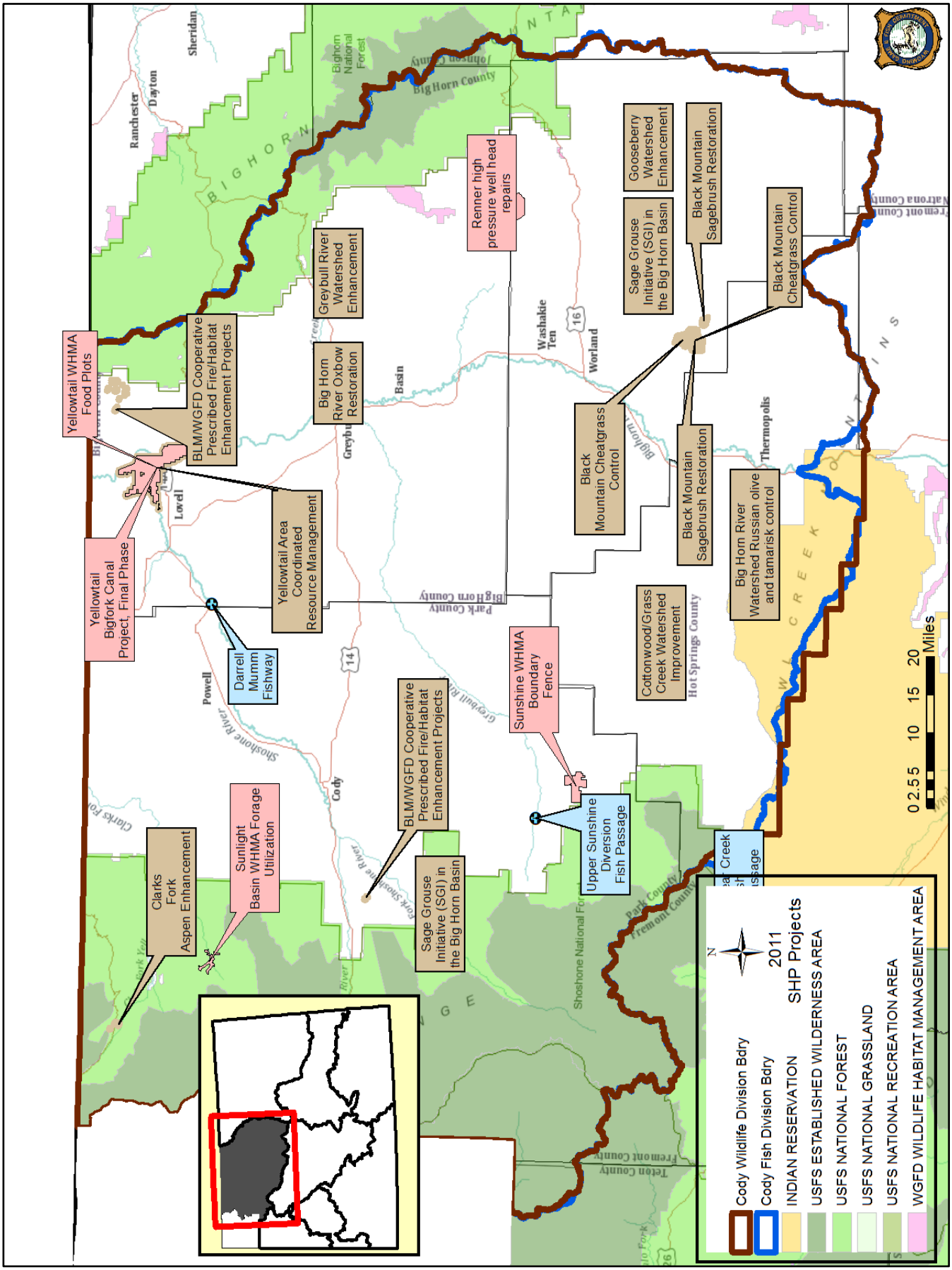
CODY REGION


Yellowtail WHMA Food Plots
BLM/WGFD Cooperative Prescribed Fire/Habitat Enhancement Projects
Greybull River Watershed Enhancement
Renner high pressure well head repairs
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Sheridan
Ranchester
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Thermopolis
Hot Springs County
Park County
Fremont County
Teton County
Washakie
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Sleep
Basin
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16
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Shoshone River
Greybull River
Shoshone National Forest
0 2.5 5 10 15 20
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SHP Projects
Cody Wildlife Division Bdry
Cody Fish Division Bdry
INDIAN RESERVATION
USFS ESTABLISHED WILDERNESS AREA
USFS NATIONAL FOREST
USFS NATIONAL GRASSLAND
USFS NATIONAL RECREATION AREA
WGFD WILDLIFE HABITAT MANAGEMENT AREA

CODY REGION HIGHLIGHTS

- 2,900 feet of 48-inch buried pipeline was installed on the Bigfork canal on the Yellowtail WHMA, which supplies water for irrigation and three large ponds north of the Shoshone River
- nearly 2,500 acres of Russian olive and tamarisk were mechanically removed and 465 acres of follow-up chemical control were conducted on various areas in the Big Horn Basin
- Replaced the flowing well supplying irrigation water and ponds on the Renner WHMA
- Planted 7,000 sagebrush seedlings and chemically treated 4,600 acres of cheatgrass within the Black Mountain wildfire area
- Conducted 53,000 acres of rangeland assessments under the NRCS Sage-Grouse Initiative Program to develop grazing and rangeland enhancements to benefit sage-grouse

Forest Plan Revision for Shoshone National Forest (Goal 1) – Jerry Altermatt

The WGFD, as a State Cooperator on the Shoshone National Forest plan revision, had the opportunity to review and comment on revisions to the plan. The Shoshone National Forest includes portions of the Cody and Lander WGFD regions and the diversity of habitats supports a wide array of wildlife of significant social and economic value. A great deal of time and effort were expended reviewing and preparing comments with other regional personnel on the proposed draft plan released for cooperator review in December 2011. A draft EIS is scheduled to be released in early summer 2012, with a final EIS scheduled for summer 2013.

Bighorn Basin BLM Resource Management Plan (Goal 1) – Jerry Altermatt

As one of the WGFD's state agency cooperator leads on the Bighorn Basin BLM Resource Management Plan (RMP) revision, much time and effort has been expended over the past year. The BLM is revising land management plans for the old Grass Creek, Washakie and Cody Resource Areas. Under the new BLM reorganization, the Wind River/Big Horn Basin District was formed and is comprised of the Cody Field Office, Worland Field Office and Lander Field Office. The Cody and Worland Field Offices are combining their RMP revision efforts to produce one plan (Bighorn Basin RMP), being analyzed under one Environmental Impact Statement (EIS), but with two NEPA decisions. WGFD personnel reviewed the draft EIS released in April 2011. Attendance at several public meetings hosted by the BLM and the cooperators to present the DEIS (Figure 1) were made during the year. The Final EIS is scheduled to be released in spring 2012.

Figure 1. Bighorn Basin BLM staff discuss Resource Management Plan issues with public meeting

Gooseberry Watershed Enhancement (Goal 2) – Amy Anderson

This is a large ongoing program in the 500,000-acre Gooseberry drainage to restore and enhance 2,000 acres of riparian habitat and stream form and function. The primary focus of the program has been the treatment and removal of Russian olive and tamarisk, reestablishment of native shrubs and trees, grazing management and instream and stream bank enhancement projects.

No mechanical treatment of Russian olive and tamarisk occurred on Gooseberry Creek in 2011. Follow-up chemical treatments were conducted by Washakie County Weed and Pest in the summer

of 2011 on approximately 250 acres. Total expenditure for projects implemented in the calendar year 2011 was $62,898. Total project expenditure for the entire watershed since 2003 is $1,417,132.

In May 2011, 400 willow cuttings were planted on private property on Gooseberry Creek using the waterjet stinger. On this same property, a small check dam was installed to raise the water table to try to provide an environment more conducive to willow survival.

There are seven active CCRP contracts on Gooseberry Creek that require follow-up. Trees and willow cuttings were planted on four of these in the spring of 2010, with only a 10% survival through summer 2011. Trees and willows provide height structure and dense hiding cover crucial for many wildlife species in the area. These habitat features are currently lacking in many areas of Gooseberry Creek and continued restoration efforts post-Russian olive and tamarisk control are needed on these properties.

NRCS Agricultural Management Assistance (AMA) funding has been the primary funding source, thus far. Other funding sources include Farm Service Agency Continuous Conservation Reserve Program (CCRP), WWNRTF, NRCS EQIP, Washakie County and Hot Springs County Weed and Pest Districts, WGFD, BLM, Washakie County Conservation District, WGBGLC, Office of State Lands and private landowners.

Upper Shoshone Russian Olive Control (Goal 2) – Jerry Altermatt

Funding was secured for treatment of 80 acres of Russian olive on the new WGFD North Cody Access and on adjoining City of Cody property. The project is part of a larger effort, the Shoshone/Clark's Fork Coordinated Resource Management. This CRM was initiated in 2009 to address invasive plant issues in the Shoshone and Clark's Fork watersheds in Park County. The group's focus is primarily on removing Russian olive and tamarisk on riparian areas and adjacent uplands of these two river systems. In 2011, landowners in the CRM mechanically/chemically treated 366 acres of Russian olive and tamarisk. The project is being funded by WWNRT, WGFD Trust Fund, NRCS and Park County Weed and Pest.

Greybull River Watershed Enhancement (Goal 2) – Amy Anderson

Greybull River Russian olive and tamarisk control efforts began in 2008. This is a large scale project, with Russian olive and tamarisk heavily invading areas more than two miles off the river in both directions from Meeteetse to Greybull. In 2011, 1,754.8 acres of Russian olive and tamarisk were treated, bringing the total to 3,194 acres treated since 2008. Four hundred willow cuttings were planted in the fall of 2011 on one property to replace the Russian olive and tamarisk. The WWNRT approved a grant of an additional $150,000 to assist landowners. Total cost for work completed on the Greybull River since 2008 is $905,589.73. NRCS AMA and WRP have been the major funding source, along with WWNRT.

Big Horn River Oxbow Wetland Restoration (Goal 2) – Amy Anderson

In 2008, a landowner initiated restoration of a wetland in an old oxbow of the Big Horn River. Work began in the spring and was completed in late fall 2010. The BLM burned the heavy buildup of cattail and Canada thistle to help provide for greater water depth and wildlife value. The landowner filled the wetland in early spring of 2011 and planted 250 trees in the area. The wetland covers approximately 12.7 acres.

Yellowtail Bigfork Canal Reconstruction, Final Phase (Goal 2) – Steve Ronne

Work began in December of 2010 and was completed in April 2011 to reconstruct the steep hillside portion of the Bigfork Canal on the Yellowtail WHMA. The final phase consisted of installing 2,900 feet of buried 48" HDPE pipeline to transport maximum capacity water to the siphon (Figures 2 and 3). This canal provides water for 640 acres of crops and cover fields and three large ponds on the north side of the Shoshone River.

Figure 2. Installation of pipe on the Bigfork Canal on the Yellowtail WHMA.

Figure 3. Siphon on the Bigfork canal on the Yellowtail WHMA.

Big Horn River Watershed Russian Olive and Tamarisk Control (Goal 2) – Amy Anderson

Russian olive and tamarisk control work started on the Big Horn River and Lower Owl Creek during the winter of 2010-11 in Hot Springs County. Three landowners removed approximately 120 acres of invasive trees, hoping to provide a demonstration site for other landowners along the river. Follow-up chemical was applied during late summer 2011. Approximately 350 additional acres and 18 landowners are signed up to complete control work on the Big Horn River and Owl Creek in 2012-13.

Heart Mountain Fence Modification (Goal 2) – Jerry Altermatt

Plans and funds were secured for a fence modification project on The Nature Conservancy's Heart Mountain Ranch and the E&B Landmark Ranch north of Cody. Approximately seven miles of woven and barbed wire fence will be removed and replaced with wildlife-friendly, three-wire high tensile electric fence, reducing or eliminating wildlife restricted movements, injury and mortality, while improving landowner relations (Figure 4).

Figure 4. Elk caught in a five-wire fence on Heart Mountain Ranch.

Cottonwood/Grass Creek Watershed Improvement (Goal 2) – Amy Anderson

In August of 2007, work began on controlling tamarisk and Russian olive invasion on Cottonwood Creek. A CRM/WID (Watershed Improvement District) has been in place since 2005 and large tracts of the 270,000 acre watershed have been inventoried for noxious and invasive weed species through individual and Hot Springs County Weed and Pest efforts. A cooperative effort led by Hot Springs County Weed and Pest formed a Weed Management Area to focus efforts and provide additional cost-share funds in the Grass Creek watershed in 2005. This has been highly effective at finding and treating infestations of all weed species on the Grass Creek portion of the watershed.

To date, 1,915 acres of Cottonwood Creek have been treated mechanically for tamarisk and Russian olive, with follow-up chemical treatments. There are two active CCRP contracts on Cottonwood Creek and a new CCRP contract was initiated on Grass Creek in 2011.

There are also seven active CCRP contracts within the Cottonwood/Grass Creek Watershed that are protecting springs (Figures 5 and 6), while providing off-site water sources for livestock. These have shown active use by mule deer, elk and migratory birds since their installation.

Figure 5. Wagonhound Spring CCRP completed in 2011.

Figure 6. Pershall Spring CCRP two years after installation.

In May of 2011, several work days were held to plant willow and cottonwood cuttings using a waterjet stinger. More than 400 willows were planted on two properties using the stinger. Ninty narrowleaf cottonwood seedlings were planted on Cottonwood Creek and in several spring locations and looked promising at the end of the summer. Survival of the 2,000 willows planted since 2009 has been relatively low due to soil salinity, fluctuations in water tables, livestock and wildlife browsing and hot, dry weather. Several practices will be initiated in the future to improve willow survival.

Currently, the largest funding source is the NRCS AMA Program followed by the WWNRT, which has allocated $225,000 to the project. TNC obtained an additional $40,000 to assist with this effort, especially on BLM land bordering the project area. Every landowner with property adjacent to Cottonwood Creek has taken part in the project to control tamarisk and Russian olive.

Black Mountain Cheatgrass Control (Goal 2) – Jerry Altermatt

Approximately 4,600 acres of cheatgrass-dominated rangeland in the Lower Nowater Allotment was treated with an aerial application of Plateau® herbicide (Figure 7). The contractor, Wyoming Helicopters, Inc. of Boulder, WY, conducted the treatment during the last two weeks of August using a rate of 8 oz. of herbicide and 8 gallons of water per acre. The allotment is within the 50,000-acre Black Mountain wildfire southeast of Worland that burned in 1996. The treatment was year one of a multi-year project targeting more than 20,000 acres of cheatgrass-impacted mule deer and pronghorn winter range, as well as sage-grouse core area.

Figure 7. Herbicide being applied aerially to cheatgrass on the Lower Nowater Allotment.

Sage-Grouse Initiative (SGI) in the Big Horn Basin (Goal 2) – Amy Anderson

In 2011, assistance was provided in Park and Washakie counties with rangeland/ranch inventories for the NRCS Sage-Grouse Initiative projects (Figure 8). Six ranches totaling 53,211 acres were inventoried and permanent transects for future monitoring were installed. Technical assistance was provided in planning for cheatgrass control, juniper removal, spring development and protection and riparian improvement to benefit sage-grouse.

Figure 8. Two ranches near Meeteetse were inventoried for participation in the NRCS Sage Grouse Initiative program.

Yellowtail Area Coordinated Resource Management (Goal 2) – Jerry Altermatt

The Yellowtail Area CRM team continued to manage invasive plants on agency and private lands in the Lower Shoshone and Bighorn River bottom lands near Lovell, WY. The CRM consists of the four landowners on the Yellowtail WHMA (National Park Service, WGFD, BLM and BOR),

neighboring private landowners, Bighorn County Weed and Pest, NRCS, Shoshone Conservation District and other interested parties. The terrestrial habitat biologist serves as chairman of the CRM and has been responsible for project planning and implementation, as well as writing and submitting grant applications for the project, including WWNRT, National Fish and Wildlife Foundation and NWTF grant proposals.

The following activities were accomplished on the CRM area in 2011:

- **Conducted mechanical treatments on well established Russian olive and saltcedar using mulching machines**. Joyce Farms, Manderson, WY, was contracted to mechanically treat 152 acres of BOR lands within the Yellowtail WHMA on the Shoshone River riparian area. The contractor used a tracked excavator with a Birdseye vertical-shaft mastication head. The mechanical mulching was accompanied by chainsaw felling and stump treatments on Russian olive that could not be mulched because of their location in dense cottonwood stands (Figure 9). A cultural survey was conducted on 815 acres of BOR lands proposed for future treatments.

Figure 9. Chainsaw felling of Russian olive in a dense cottonwood stand on Yellowtail WHMA.

- **Utilized goats and cattle in prescribed grazing treatments**. Boer goats were used on the Bighorn River and Shoshone River between April and September to control invasive plants in a continuing program initiated in 2004. An area of approximately 400 acres received the grazing treatment with 1,000 goats. The primary objective is to target Russian olive, salt cedar and Russian knapweed. Because of record high levels of Bighorn Lake and inundation of much of the scheduled grazing areas, treatments had to be modified. For the second consecutive winter, ice jams and flooding of the Shoshone River precluded the use of cattle in a prescribed grazing program to reduce fine fuels and rejuvenate vegetation.

- **Continued education and public outreach efforts.** The “CRM in the Classroom” program is an integrated, interdisciplinary program in which teachers and students participate in collaborative decision-making groups that are working on natural resource issues throughout the state. Lovell High School (LHS) entered into the program in 2005 and is affiliated with the Yellowtail Area CRM. In 2011, 30 LHS students were involved in monitoring effectiveness of herbicide treatments on Russian olive.

- **Continued biocontrol of salt cedar (tamarisk).** The salt cedar biocontrol program in the Yellowtail CRM using the insect, *Diorhabda elongata*, continues to be monitored by the Agricultural Research Station (ARS). Insect populations in 2011 are still very low after a dramatic decrease for unknown

reasons in 2009. Plans to supplement the population with insects from another Wyoming site are in progress.

- **Conducted herbicide treatments on noxious weeds using vehicle and backback sprayers.** BLM fire crews applied herbicide to tamarisk and Russian olive resprouts for the second year on 215 acres that were mechanically treated in early 2010. Field Services, LLC from Cody, WY was contracted to apply herbicide as a basal bark treatment on tamarisk and young Russian olive on 485 acres in preparation for mechanical treatments in 2012. Field Services also foliar treated resprouts in the fall on 152 acres that were mechanical treated in early 2011 (Figure 10). Big Horn County Weed and Pest District chemically treated approximately 100 acres of Russian knapweed, tamarisk and whitetop.

Figure 10. Field Services spraying Russian olive re-sprouts on Yellowtail WHMA.

- **Monitoring.** Vegetative responses in mechanical/chemical treatments are documented with photopoints and, in some cases, with belt or circular plot transects to collect Russian olive and tamarisk density and percent mortality data. A study was set up to determine effectiveness of four different herbicide treatments on Russian olive resprouts, including a new herbicide produced by DOW Chemical. Herbaceous response after dense Russian olive overstory has been removed is remarkable (Figure 11).

Figure 11. Photos taken before (left), immediately after (middle) and three years after (right) Russian olive removal on Yellowtail WHMA.

Clarks Fork Aspen Enhancement (Goal 2) – Jerry Altermatt

The Shoshone National Forest and the WGFD conducted 70 acres of aspen treatment in the Upper Clarks Fork drainage in 2011. The objective of the treatment was to remove conifers from aspen communities at high risk of being lost through succession (Figure 12). The treatments were conducted by a USFS chainsaw crew. Some of the area will be treated with prescribed fire after the needles on the felled trees turn red. The treatment was the second year of a larger project that will eventually treat 300-500 acres of aspen identified during an inventory conducted by the WGFD in 2004.

Figure 12. Aspen stand being encroached by conifers in the Upper Clark's Fork.

Black Mountain Sagebrush Restoration (Goal 2) – Jerry Altermatt

In November, 7,000 sagebrush seedlings were planted in two areas within the 50,000-acre Black Mountain wildfire southeast of Worland (Figure 13). The 1996 wildfire burned large areas of Wyoming big sagebrush that served as pronghorn and mule deer winter range, as well as breeding, nesting and winter range for sage-grouse. The objective is to establish seed sources within the burn by creating group plantings of sagebrush in select areas. Ten-inch tublings were planted in groups of 75 plants and enclosed by 8 square foot cages to exclude browsing by livestock and wildlife. Weed barrier was used to reduce competition from cheatgrass in each of the exclosures. The planting was the second phase of a project initiated in 2009 when 4,000 sagebrush seedlings were planted (Figure 14). The survival rate for the 2009 plantings is more than 90%.

Figure 13. Sagebrush tublings being dipped in micorrhyzal fungi prior to planting on Black Mountain.

Figure 14. 2009 sagebrush seedlings after two growing seasons on Black Mountain.

Sunlight Basin WHMA Forage Utilization (Goal 2) – Steve Ronne

Annual forage utilization information is collected on the Sunlight Basin WHMA each year. In 2011, elk utilization was low on irrigated meadow areas (Figure 15) on the WHMA and high on non-irrigated sites (Figure 16).

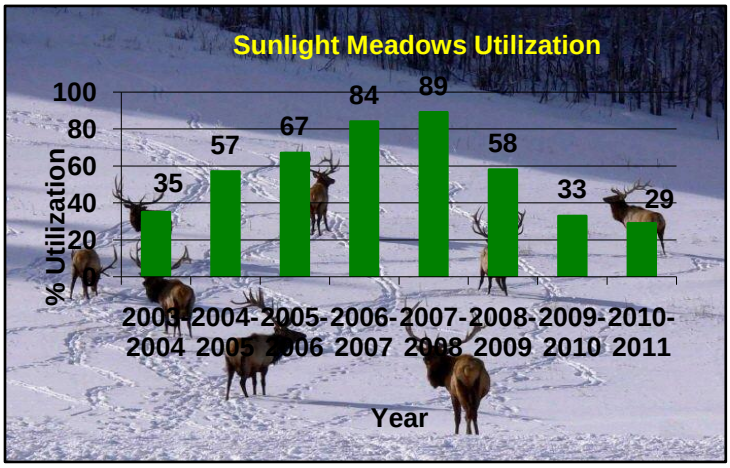

Figure 15. Sunlight Basin WHMA meadow utilization.

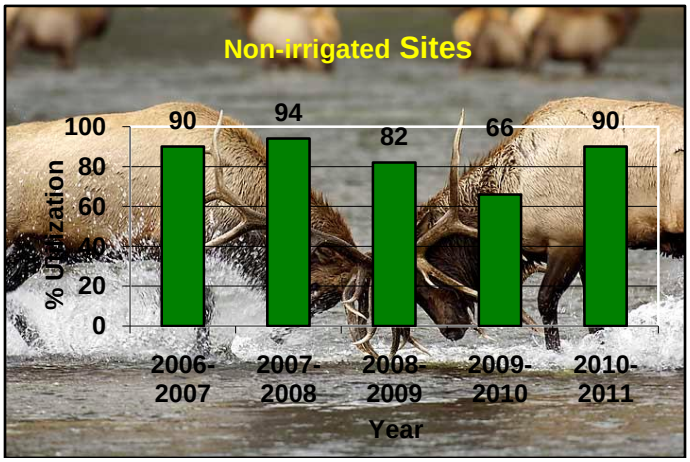

Figure 16. Sunlight Basin WHMA non-meadow utilization.

BLM/WGFD Cooperative Prescribed Fire/Habitat Enhancement (Goal 2) – Jerry Altermatt

Approximately 600 acres of juniper-encroached and dense sagebrush communities were treated with prescribed fire on the west slope of the Bighorn Mountains east of Lovell (Figure 17). The objective of the treatments was to remove encroaching junipers from sagebrush communities within elk, mule deer and sage-grouse habitat. The burns were conducted by the BLM Cody Field Office, with assistance from WGFD. In addition, 300 acres of cheatgrass were treated and two wildlife guzzlers were installed.

Figure 17. Prescribed fire in dense sagebrush communities on the west slope of the Bighorn Mountains.

Figure 18. Prescribed fire to remove conifers from sagebrush communities on Breteche Creek.

Approximately 70 acres of decadent mountain big sagebrush communities were treated with prescribed fire in the Breteche Creek watershed west of Cody (Figure 18). The objective of the burn was to remove encroaching juniper, limber pine and Douglas fir, create younger age classes of sagebrush and increase herbaceous forage on elk, mule deer and bighorn sheep winter ranges.

Production/Utilization Surveys (Goal 2) – Jerry Altermatt

Regional wildlife personnel collected production/utilization data at 10 sagebrush transects during 2011 (Figure 19). With the exception of one transect, annual leader production was above the eight-year average and, in some cases, nearly double the average, a result of exceptional April through June precipitation over most of the Bighorn Basin. Utilization at all transects in spring 2011 was slightly above average, but below the 35% utilization level considered to be the threshold for over-use. (Figure 20). Light utilization may indicate that populations are in balance with the amount of winter forage, but may also reflect the fact that the Cody Region has experienced relatively mild winters, with big game distributed more widely over winter ranges rather than concentrating animals on crucial winter ranges where most utilization studies are located.

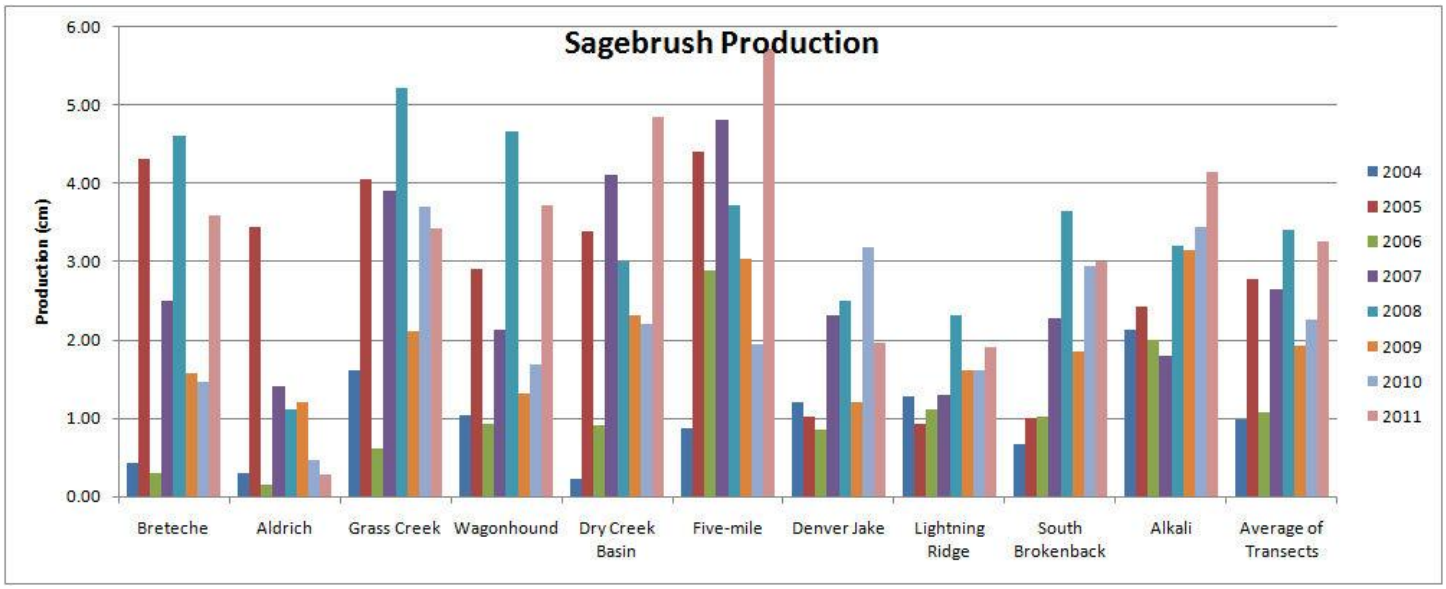

Figure 19. Annual production of sagebrush at 10 locations in the Cody Region.

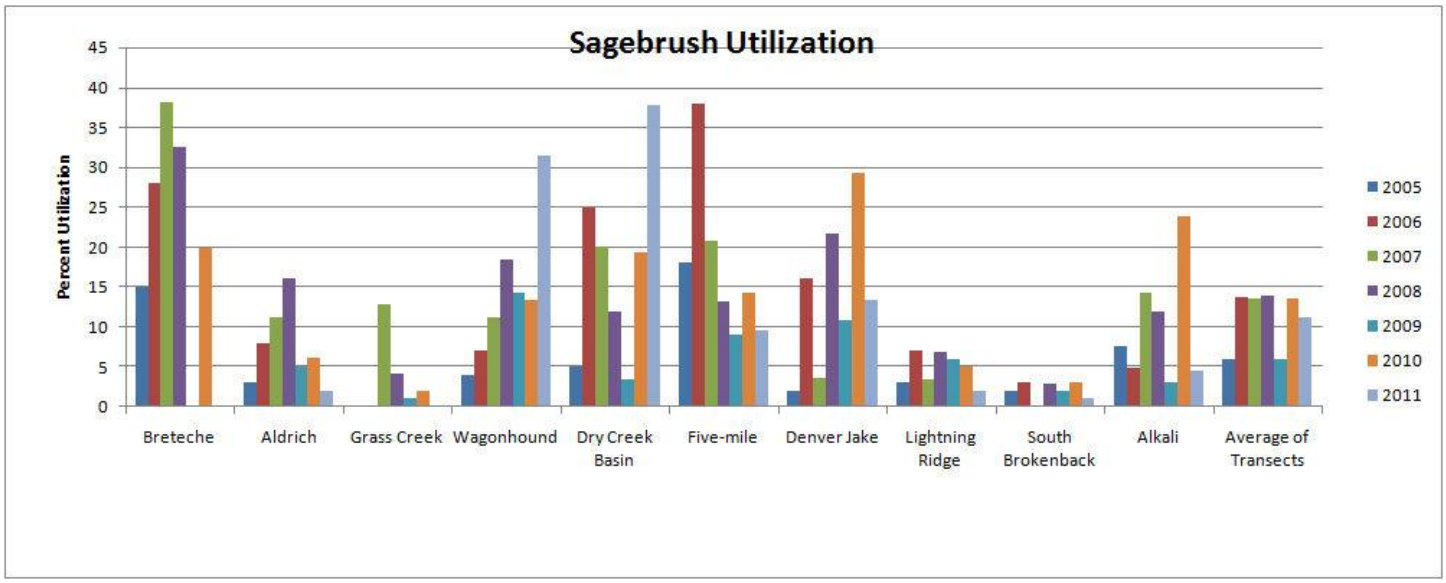

Figure 20. Utilization of sagebrush expressed as percent annual leaders browsed at ten locations in the Cody Region.

Herbaceous production and utilization was measured at nine sites on the Absaroka Front in areas where monitoring elk use is a priority. Production was generally average on all sites, indicating that, even though precipitation was above normal, cooler spring and early summer temperatures may have

delayed grass growth and decreased production (Figure 21). Utilization during winter continues to consistently exceed upper limits at transects in Sunlight Basin where winter count objectives for elk exceed objectives (Figure 22).

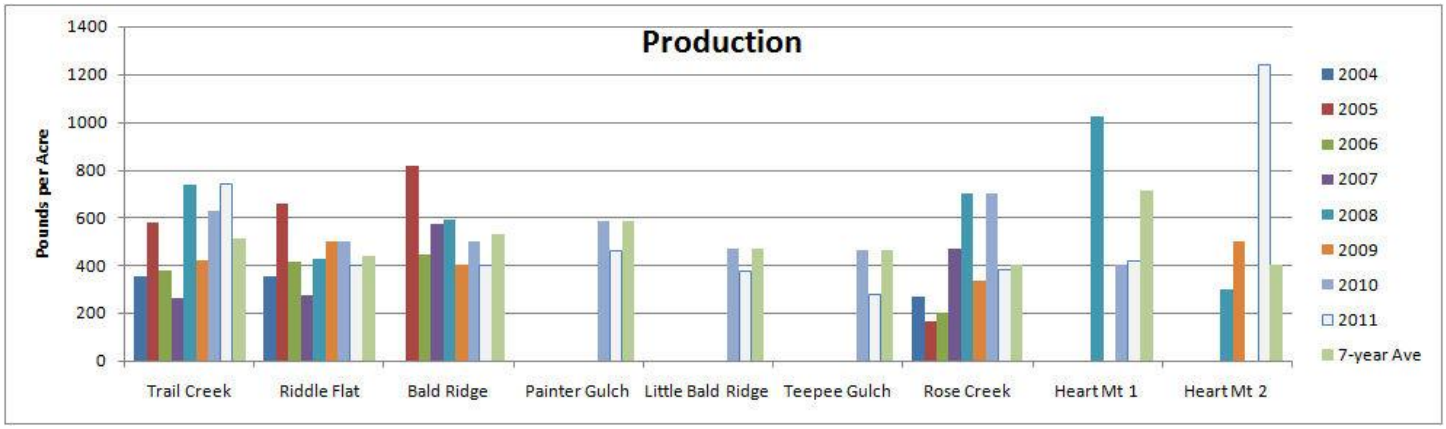

Figure 21. Annual production of herbaceous vegetation at nine locations in the Cody Region.

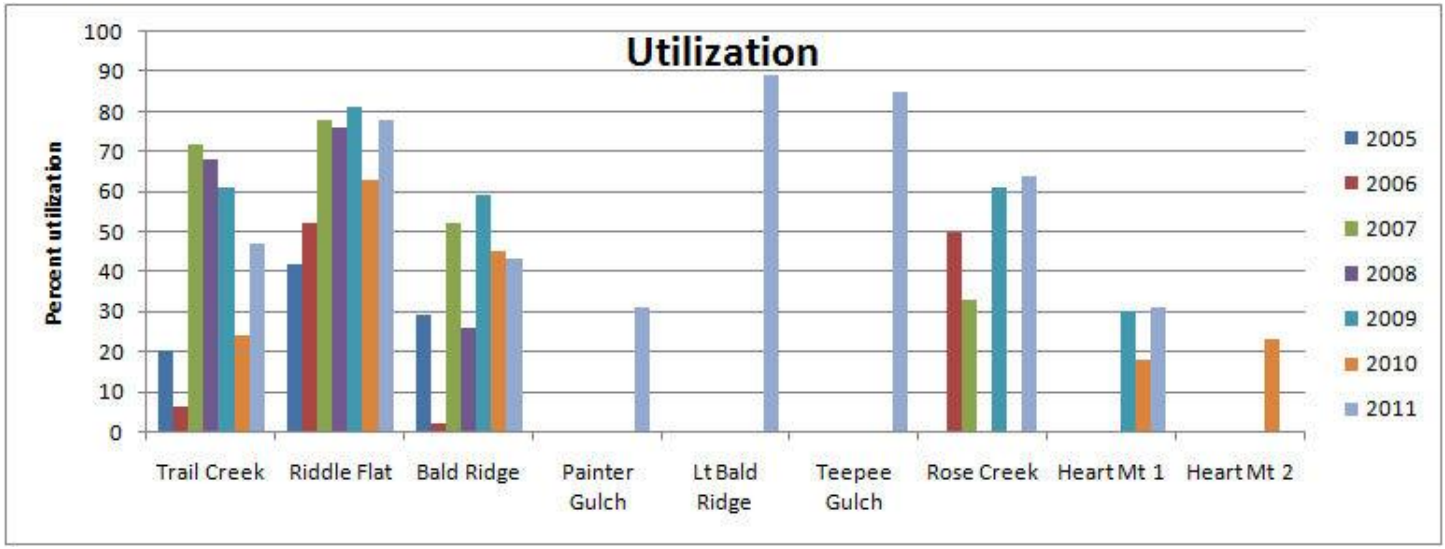

Figure 22. Utilization of herbaceous vegetation at nine locations in the Cody Region.

Yellowtail WHMA Food Plots (Goal 2) – Steve Ronne

Twenty acres of winter wheat, five acres of milo/sorghum Pheasants Forever mix and three acres of sainfoin were planted using a Truax no till drill. Seed was donated by Pheasants Forever, Ken Pike and the University of Wyoming seed lab in Powell. One hundred thirty acres of permanent cover fields and food plots were irrigated and 200 acres of grass cover were mowed in lieu of burning to stimulate growth and remove decadent plant material on the Yellowtail WHMA.

Sunshine WHMA Boundary Fence (Goal 2) – Steve Ronne

More than three miles of woven wire boundary fence was removed and replaced with a three-wire, high tensile electric fence on the Sunshine WHMA (Figure 23). Metal gates were installed at areas of high wildlife movement to be opened to allow easier passage during the winter months when no livestock grazing is occurring on adjacent private land.

Figure 23. Fence removal and installation on the Sunshine WHMA.

Renner High Pressure Well Head Repairs (Goal 2) – Steve Ronne

The high pressure, high volume well that supplies water to the irrigation system and also feeds the wetlands failed (Figure 24) at a weld and was replaced on the Renner WHMA. An oilfield "work-over" rig was required to control the well and complete the pipe and valve replacement (Figure 25).

Figure 24. Renner WHMA well weld failure break.

Figure 25. Renner WHMA well head repair and new valve.

Habitat Extension Services (Goal 2) and Information and Education (Goal 4) – Amy Anderson

In 2011, 36 individual landowner contacts were made, with 16 of those resulting in various on-the-ground management projects. During the year, direct involvement in two Wetland Reserve Programs

(WRP) and two Continuous Conservation Reserve Programs (CCRP) and assistance on six new NRCS Sage-Grouse Initiative (SGI) projects was provided to individuals enrolled in the program. Reviews and comments were provided on numerous other NRCS Farm Bill projects having the potential to affect wildlife in the Bighorn Basin area. Numerous youth and adult educational activities concerning the importance of habitat to wildlife were made during the year. In addition, workshops relative to Russian olive and tamarisk control and management were prepared and presented to a variety of partners and professional organizations.

Information and Education (Goal 4)

Major information and education opportunities were addressed on the Devils Canyon bighorn sheep capture and transplant project. Coordination efforts included all major media (print and electronic) from the Big Horn Basin and internal videographer. In addition, 13 Powell High School students and their teacher participated in the project and learned about the relationship of matching low elevation bighorn sheep to low elevation habitat.

Information on the impact aquatic nuisance species have on aquatic systems was presented to approximately 40 youth at the Cody Youth Fishing Day event at Beck Lake Park. Discussion included illegal fish introductions, zebra and quagga mussels, New Zealand mud snails and noxious aquatic vegetation.

In cooperation with the C-5 Camp near Hyattville, presentations and information was provided to involve students in terrestrial and aquatic habitat assessments. The day-long program included hands-on stream and habitat investigations and Project WILD activities.

A news release identifying the relationship between low white-bark pine cone production and possible increases in conflicts with grizzly bears was completed and distributed throughout the Region.